phosphate, $Fe_3(PO_4)_2$, instead of the traces of iron which are usually added to the Sachs solution as Fe_2Cl_6. It differs from PFEFFER'S and MAYER'S essentially in the use of tricalcium phosphate, $Ca_3(PO_4)_2$, instead of potassium phosphate, thus avoiding the acidity of these solutions. BENECKE has tested VON DER CRONE'S claims, some of which he finds justified, others not. The details are not of general interest.—C. R. B.

Prochromogens.—In further development of our knowledge of plant chromogens, PALLADIN[32] has found that these substances are not present in any considerable amounts at any time, but that they are formed gradually, from what he proposes to call prochromogens, which there is some ground for thinking are glucosides. These are split up by enzymes and the chromogens are produced in small amounts, except in the spring, when larger amounts may be observed. In dead plants the enzymes give rise to large amounts of the chromogens, because the splitting is then uncoordinated, and the oxidation of these leads to the observed blackening of the tissues.—C. R. B.

Light perception.—Besides the ocelli (in the sense of HABERLANDT), SCHÜRHOFF describes[33] apparatus in six species of Peperomia which may function in the perception of light, namely: the funnelform palisade cells, by reflecting the light to the chloroplasts at their base; the upper convex wall of the palisades, by acting as a lens; and the cluster crystals, that disperse to all the chloroplasts the light focused by the lenticular upper portion of the cell. These ideas seem even more strained than the theory they are adduced to support.—C. R. B.

Wetting of leaves.—AWANO[34] furnishes the ecologists a considerable body of statistics regarding the wetability (there ought to be such a word, if there is not) of leaves. Out of 264 plants examined as to this point, he finds 164, about $\frac{2}{3}$, wetable with difficulty or not at all, while the rest are easily wetable. Leaves of most strand and sand plants are hardly wetable, while those of shade plants and ferns are easily wetable. The details, presented in extensive tables, are combined with observations on the number and distribution of stomata.—C. R. B.

Extrafloral nectaries.—SALISBURY has described[35] the extrafloral nectaries of eight species of the genus Polygonum. He ascribes the secretory action to osmotic pressure of the gland cells, independent of root pressure, and thinks that the nectar glands, which are especially striking in tropical plants, represent originally hydatodes, which have in some cases later acquired a biological significance. He

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[32] PALLADIN, W., Ueber Protochromogene der pflanzlichen Atmungschromogene. Ber. Deutsch. Bot. Gesells. **27**: 101–106. 1909.

[33] SCHÜRHOFF, P., Ozellen und Lichtkondensoren bei einigen Peperomien. Beih. Bot. Centralbl. **23**: 14–26. *pls. 3, 4.* 1908.

[34] AWANO, S., Ueber die Benetzbarkeit der Blätter. Jour. Coll. Sci. Imp. Univ. Tokyo **27**: 1–49. 1909.

[35] SALISBURY, E. J., The extrafloral nectaries of the genus Polygonum. Annals of Botany **23**: 229–242. *pl. 16. figs. 6.* 1909.